

EX-2000 Series

EX-2000MT / EX-2000MS / EX-2000YT / EX-2000YS

CNC Turning Center

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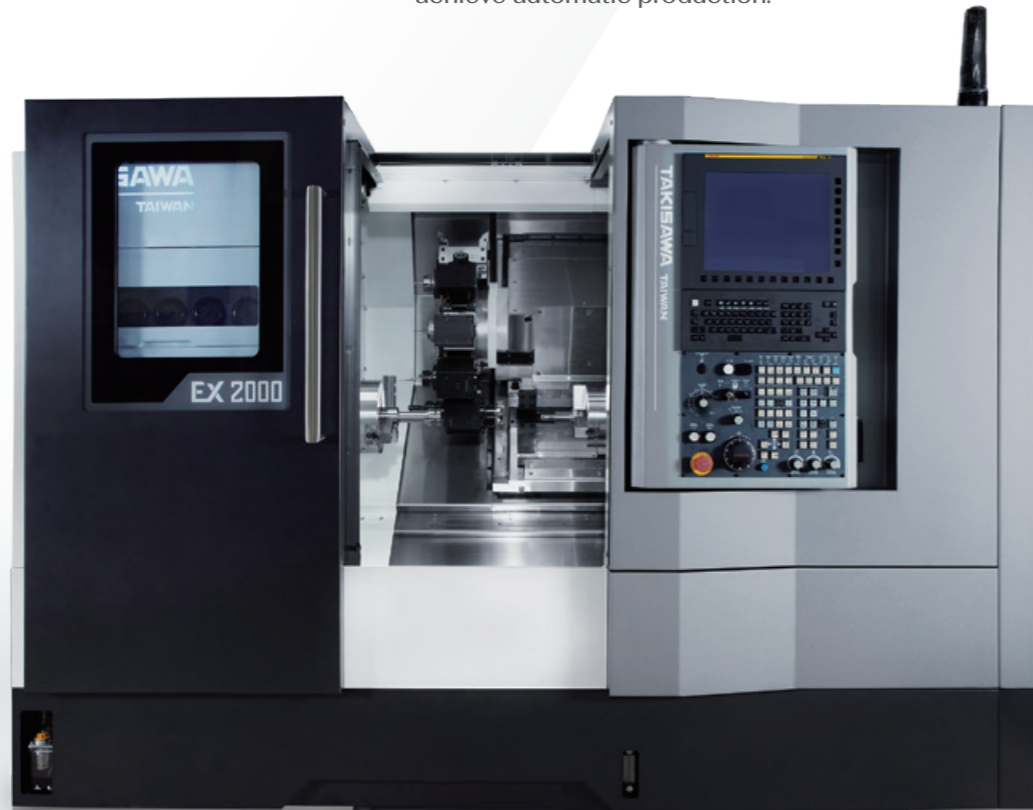


EX-2000 series

EX-2000 series is TAIWAN TAKISAWA new generation of high rigidity and high precision turning center capable of handling varieties of parts.

Space-saving design and faster traverse rate achieve high productivity.

High modular design with 6 types of axial configurations. In addition, turning or milling turret, Y axis, tailstock or sub-spindle are available. Variant high precision accessories and parts loader /unloader to achieve automatic production.



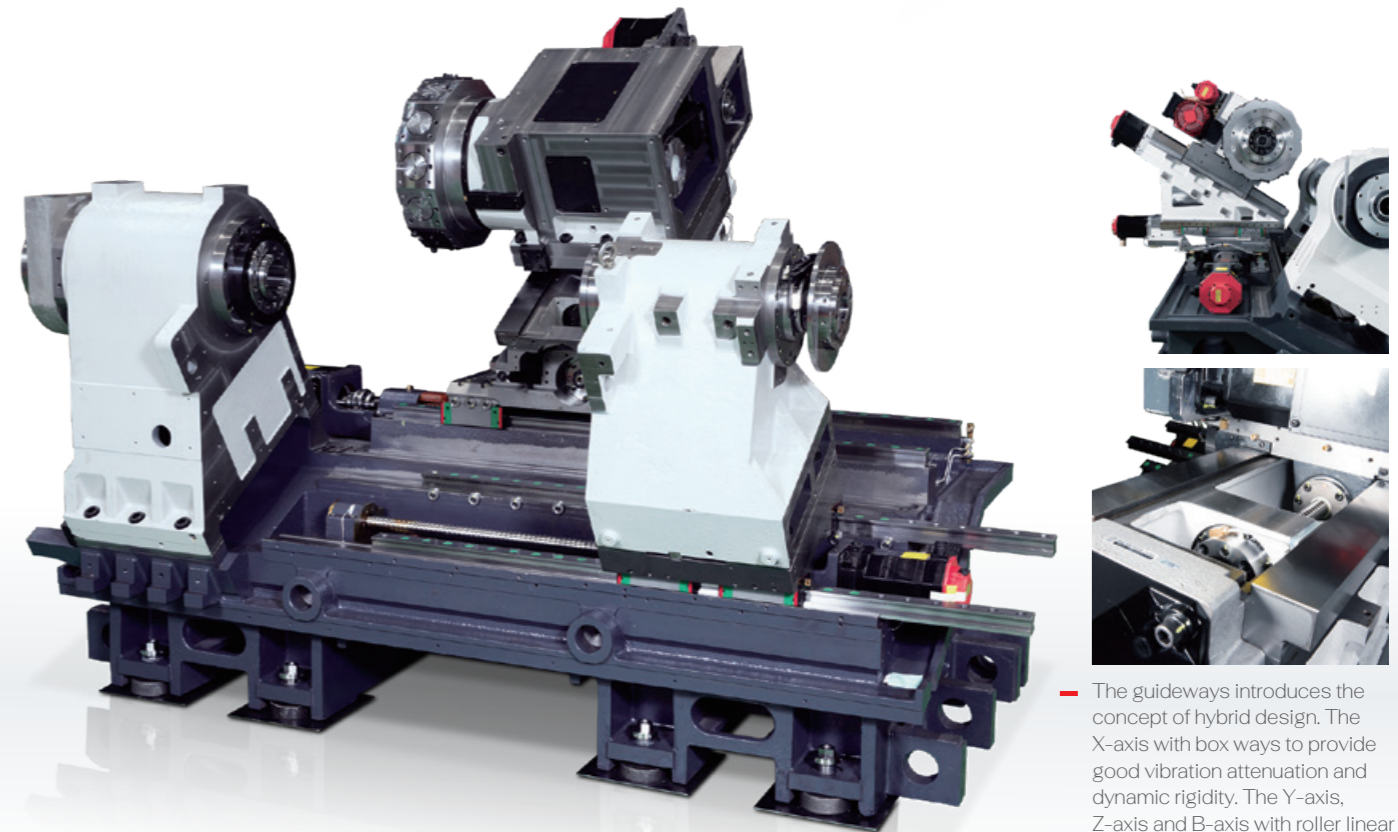
01 Specification Options

	EX-2000					
	T	MT	YT	S	MS	YS
Built-In Motor Left Spindle	◎	●	●	◎	●	●
Belt Motor Left Spindle	●	◎	◎	●	◎	◎
Built-In Motor Right Spindle	-	-	-	●	●	●
Left C Axis	-	●	●	-	●	●
Right C Axis	-	-	-	-	●	●
T12 Turning Turret	●	-	-	●	-	-
T12 Milling Turret	-	●	●	-	●	●
Y-Axis	-	-	●	-	-	●
Servo Tailstock	●	●	●	-	-	-

● Standard ◎ Optional - Nope

02 Workpiece Size

	EX-2000T	EX-2000MT	EX-2000YT	EX-2000S	EX-2000MS	EX-2000YS	
Max. Turning Diameter	390						mm
Max. Turning Length	Turning Turret: 510.5 / Std. Milling Turret: 510.5 / BMT65 Milling Turret: 504.5						mm
Max. Bar Work Dia. (L Sp. / R Sp.)	65	65	65	65 / 52	65 / 52	65 / 52	mm



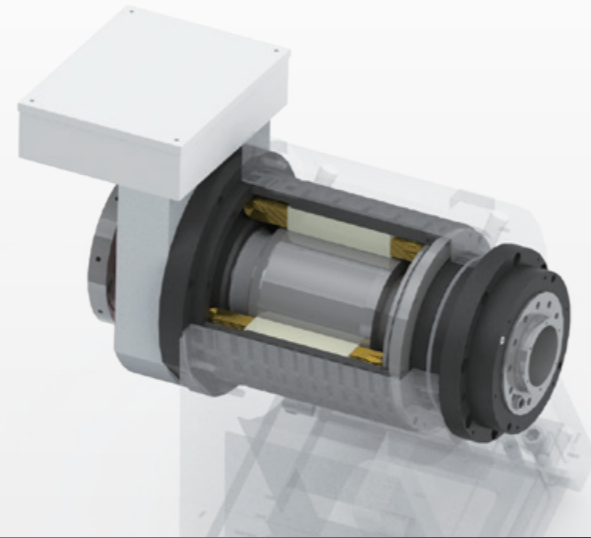
The guideways introduces the concept of hybrid design. The X-axis with box ways to provide good vibration attenuation and dynamic rigidity. The Y-axis, Z-axis and B-axis with roller linear guides to achieve high precision, high rigidity and high speed.

03 Travel & Rapid Traverse

	EX-2000						
	T	MT	YT	S	MS	YS	
X-Axis Travel	250	250	250	250	250	250	mm
X-Axis Rapid Traverse	30	30	30	30	30	30	m / min
Z-Axis Travel	590	590	590	590	590	590	mm
Z-Axis Rapid Traverse	36	36	36	36	36	36	m / min
Y-Axis Travel	-	-	± 50	-	-	± 50	mm
Y-Axis Rapid Traverse	-	-	10	-	-	10	m / min
B-Axis Travel	570	570	570	570	570	570	mm
B-Axis Rapid Traverse	36	36	36	36	36	36	m / min

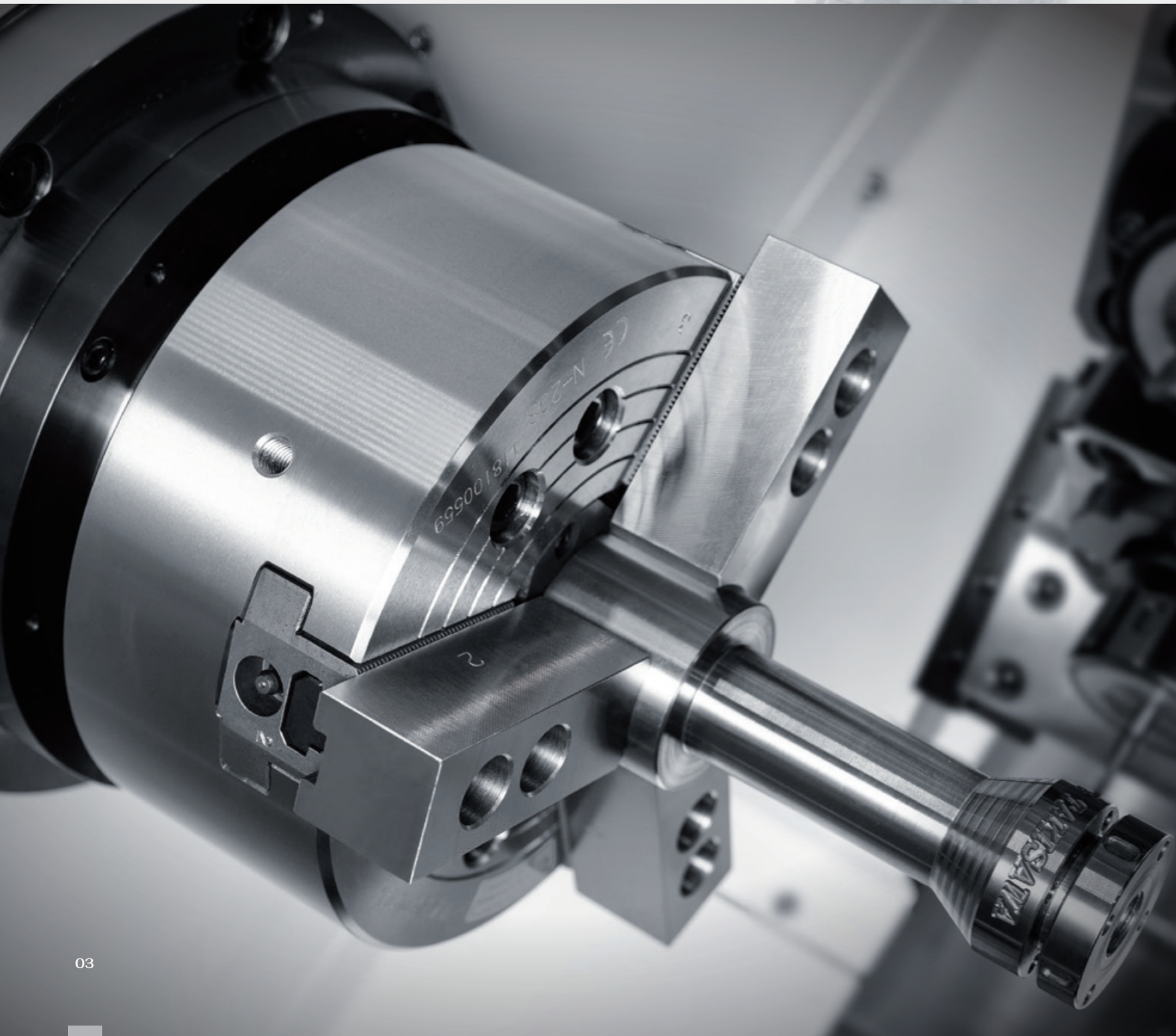
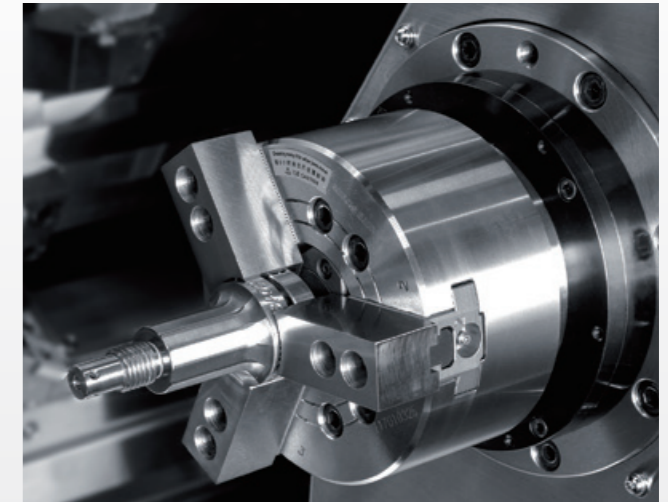
Spindle

The left and right spindles are equipped with built-in motors for high precision, low vibration and low noise, which provide better surface roughness of the workpiece. For left spindle, a reliable and cost-effective belt-type spindle is available.

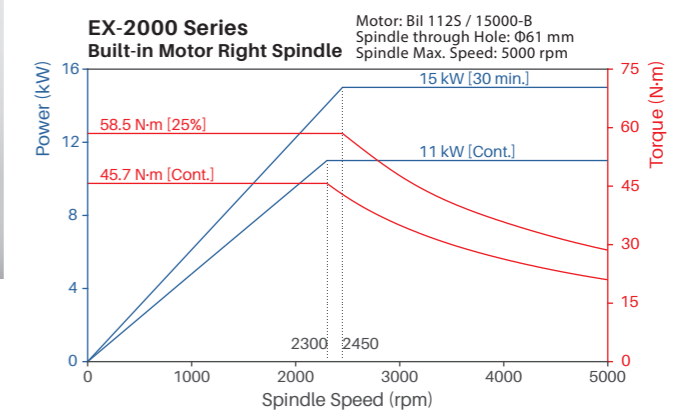
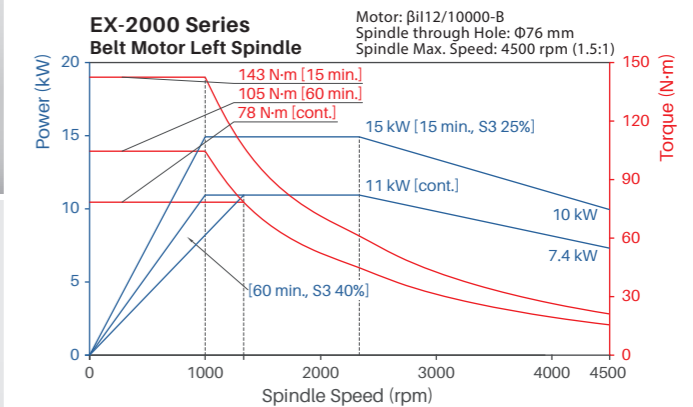
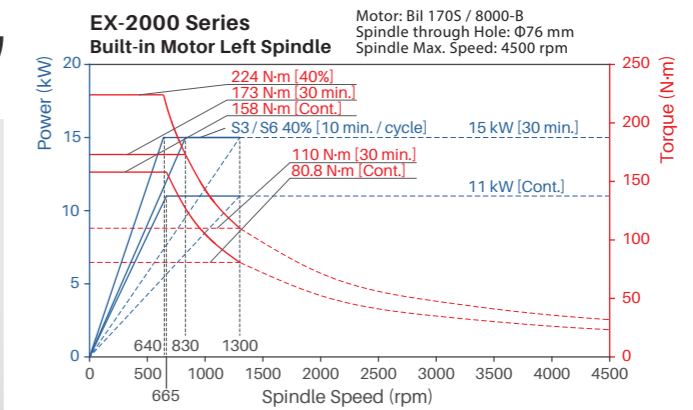
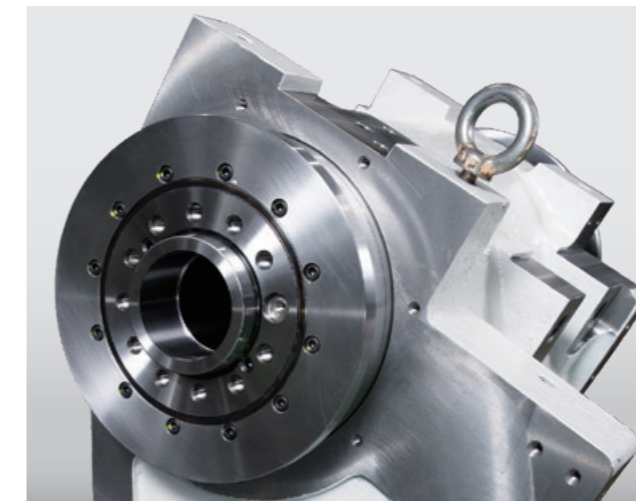
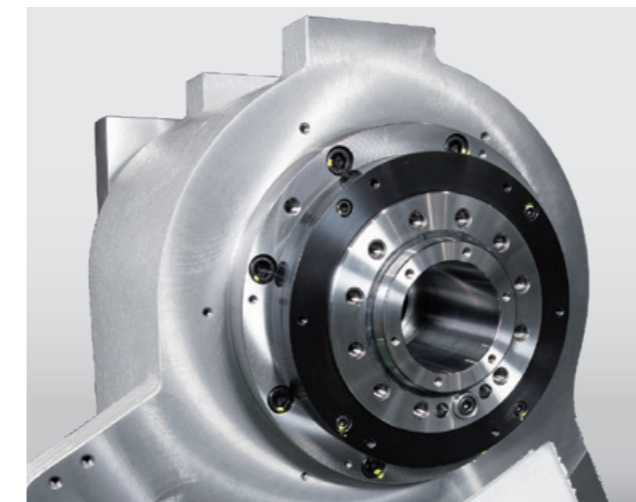


	Built-in Motor Left Spindle	Belt Motor Left Spindle	Built-in Motor Right Spindle*
Spindle Nose	A2-6	A2-6	A2-5
Spindle Speed	4500	4500	5000 rpm
Through Hole Diameter	76	76	61 mm
Bearing Inside Diameter	110	110	80 mm
Motor Output	15 / 11	15 / 11	15 / 11 kW
Max. Torque	224	143	58.5 N-m
Standard Chuck Size	8	8	6 inch

* For EX-2000S, EX-2000MS, EX-2000YS Only



Spindle Output Diagram

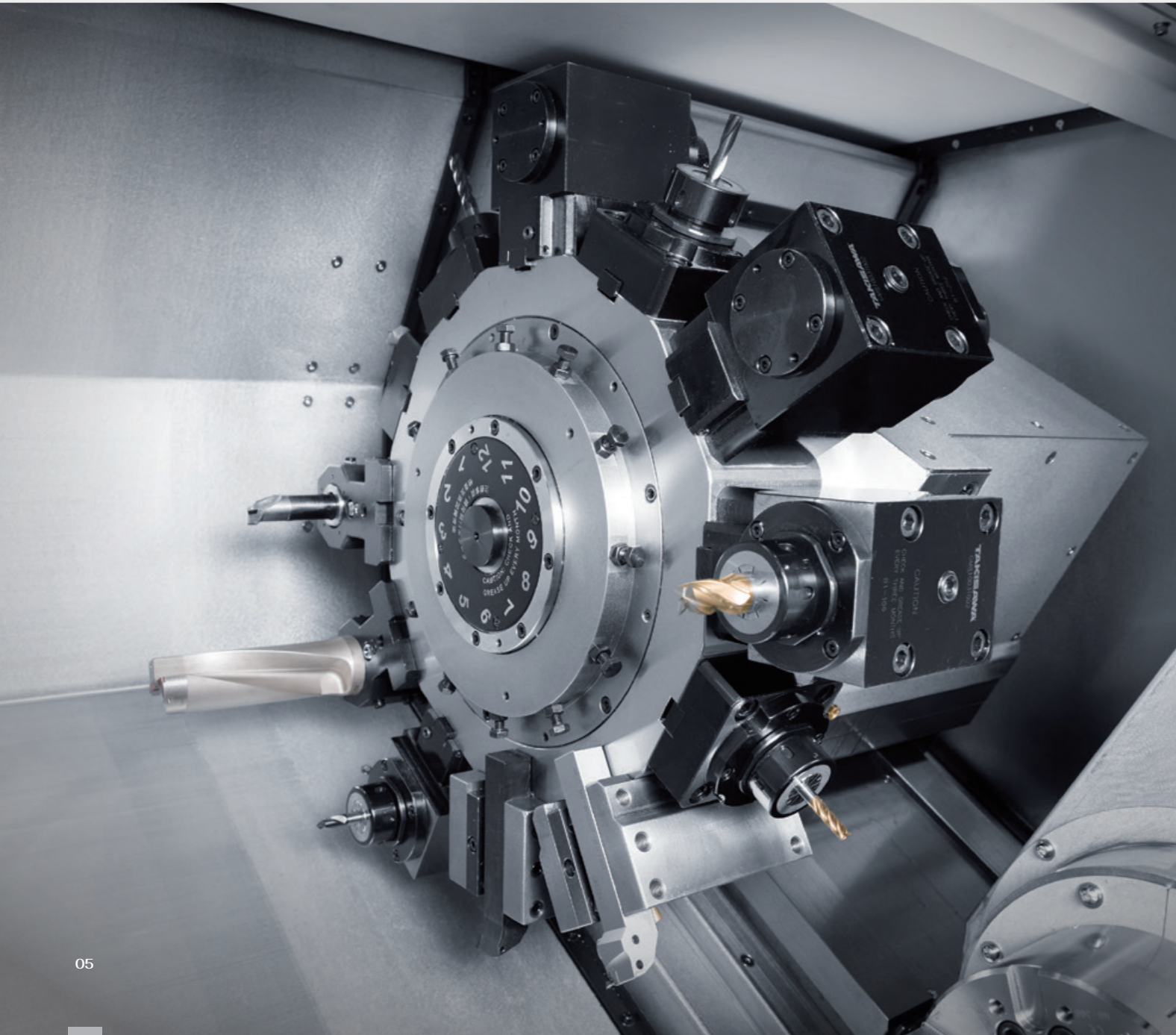
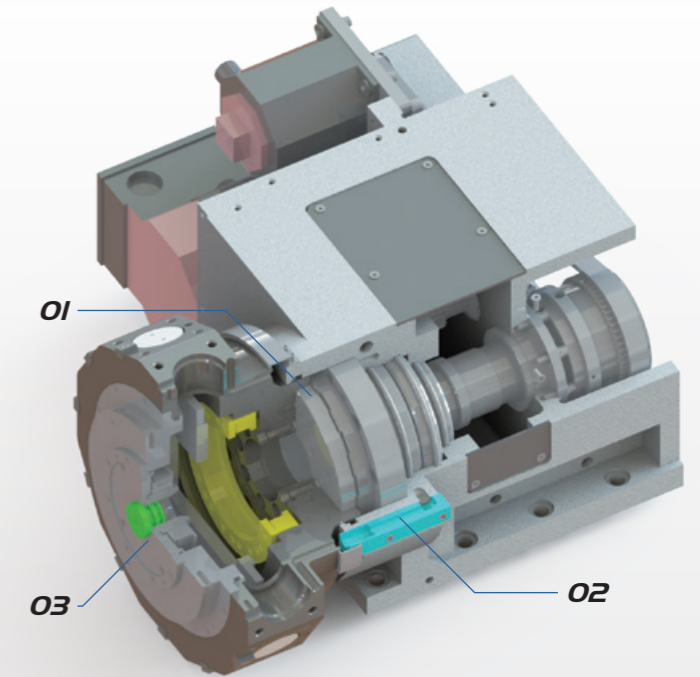


Turret

Taiwan Takisawa high-rigidity, high-precision T12 turning-milling turret adopts a large diameter of curved tooth bevel gear. Capable to handle combined machining such as milling, drilling and tapping rather than turning to improve the engineering concentration and processing accuracy of parts processing.

Turret Structure

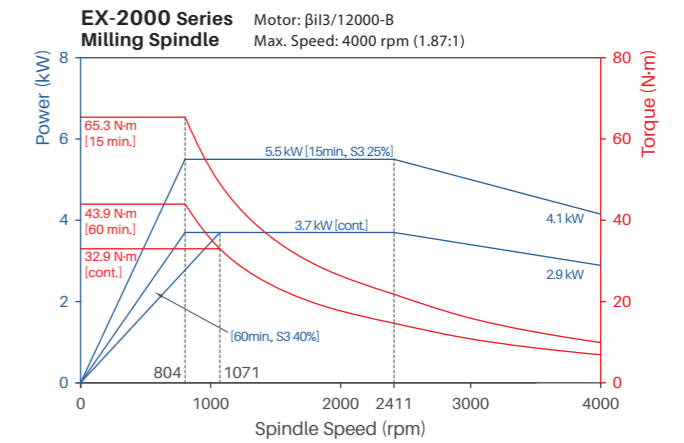
- 01** Curvic coupling OD 210 mm performs high rigidity and accuracy
- 02** Ready for 70 bar hi-pressure coolant
- 03** Easy to grease up



T12 Turret

Turret Type	Turning	Standard	BMT65
	Turret	Milling Turret	Milling Turret
Number of Tools	12	12	12
OD Tool Shank Dimension	25	25	25 mm
ID Tool Shank Diameter	40	40	40 mm
Milling Shank Diameter	-	20	20 mm
Milling Collet Specification	-	ER32	ER32
Milling Spindle Speed	-	4000	4000 rpm
Motor Output	-	5.5 / 3.7	5.5 / 3.7 kW
Max. Torque	-	65.3	65.3 N·m

Spindle Output Diagram



Special Tool Holders

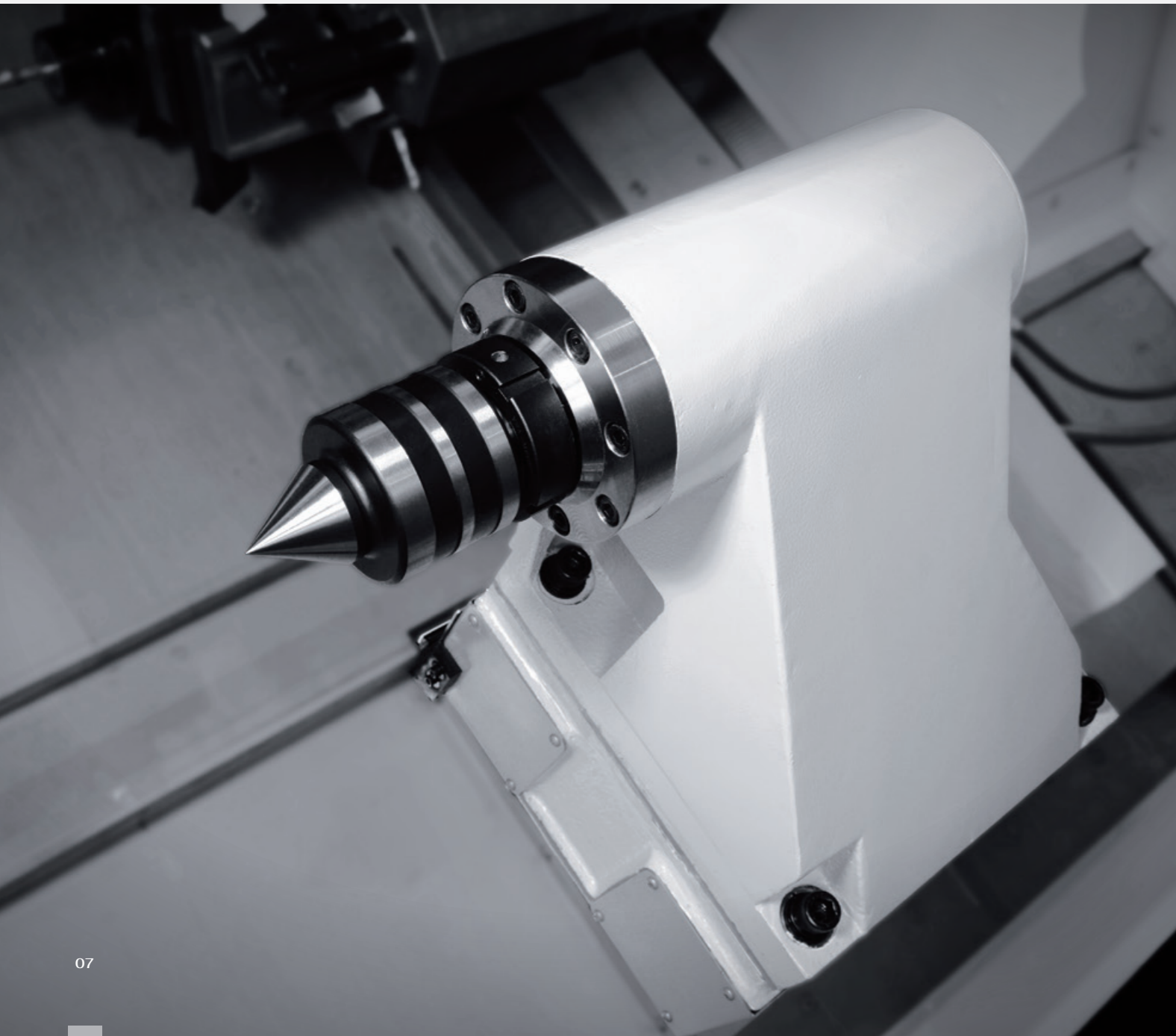
- 01** Gear Hobbing*
- 02** Broaching
- 03** Power Skiving
- 04** Adjustable Angle Milling



*only for the turret of the milling spindle motor transmission ratio 1:1

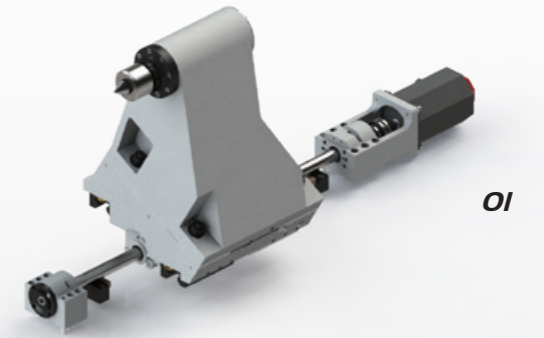
Tailstock

EX-2000T, EX-2000MT and EX-2000YT are equipped with servo tailstock. The tailstock is driven by servo motor, with advantages of easy operation and fast movement. The movement speed is up to 36 meters per minute. In case of heavy load condition, a rotary spindle of tailstock with fixed center can be selected.



01 Servo Tailstock

Tapered Bore Type	MT.5	
Tailstock Thrust	1 ~ 4	kN
Tailstock Travel	570	mm
Rapid Traverse	36	m / min
Approach	0.8 ~ 2	m / min
Retract	5	m / min



01

02 Servo Tailstock Function

Through the dialog UI interface, it is convenient to set the servo tailstock thrust and origin and other parameters.



02

01 Tailstock with Rotary Spindle

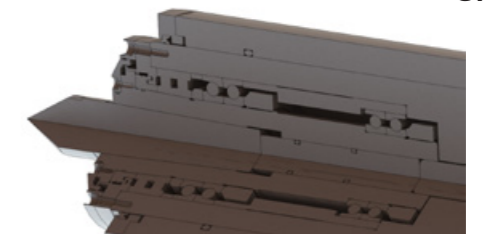
Recommended for heavy-duty use.

02 Chip Conveyor Type

Depending on the part material and chip size, the hinge type or scraper type can be selected.

03 Chip Conveyor Configuration

Optional right disposal type or rear disposal type.



01

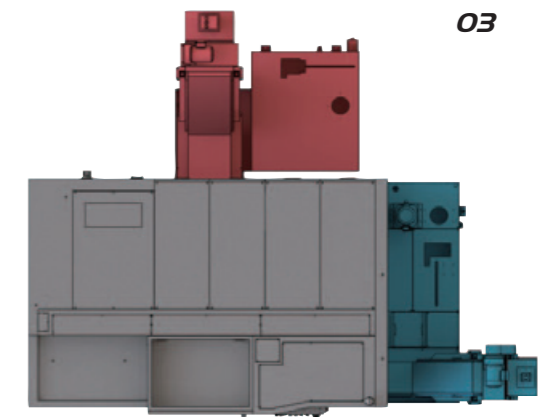
Hinge Type
Chip Conveyor

Scraper Type
Chip Conveyor

02



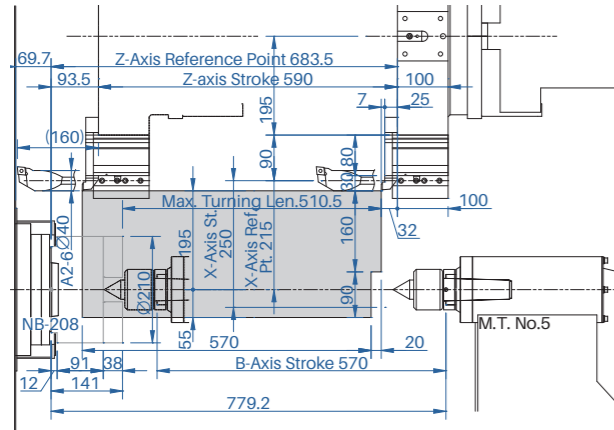
Chip Type	Curly Metallic Chip Steel / Aluminum	Power Metallic Chip Foundry / Aluminum / Brass	Non-Metallic
Hinge Type	○	×	○
Scraper Type	×	○	×



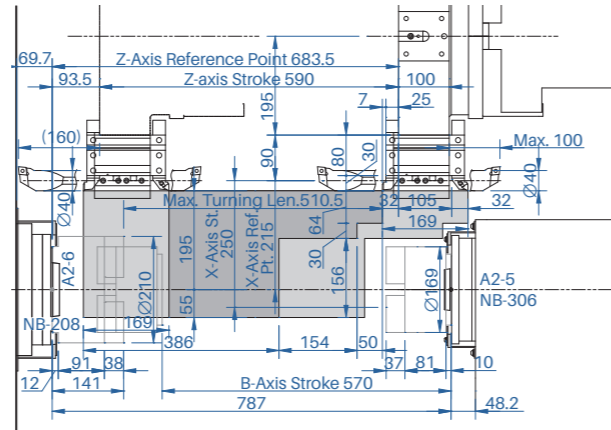
03

Travel Range

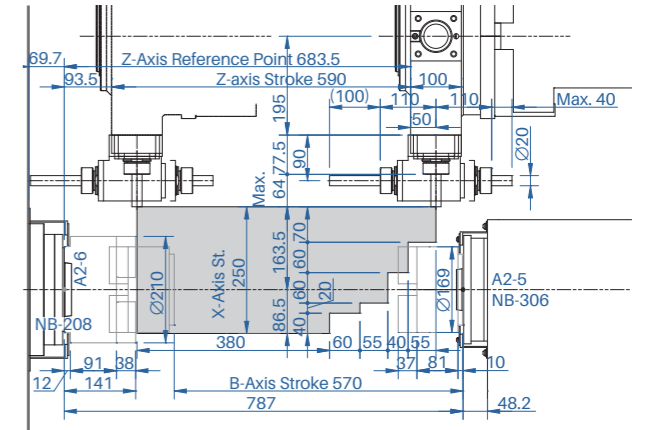
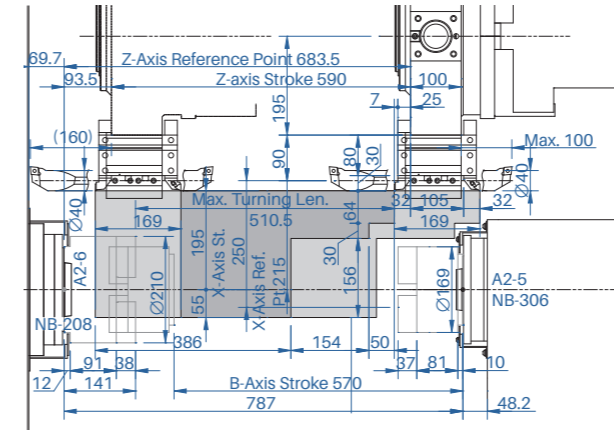
EX-2000T TURNING TURRET



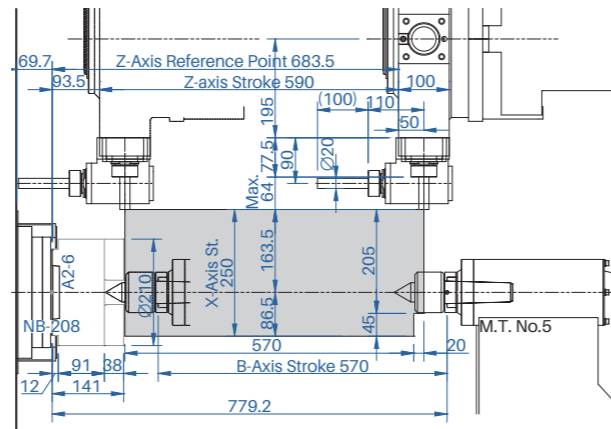
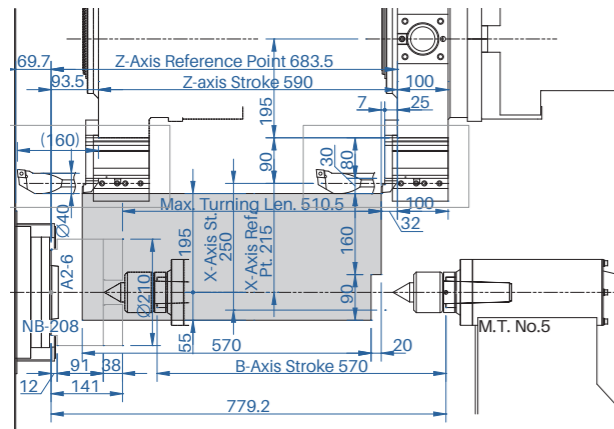
EX-2000S TURNING TURRET



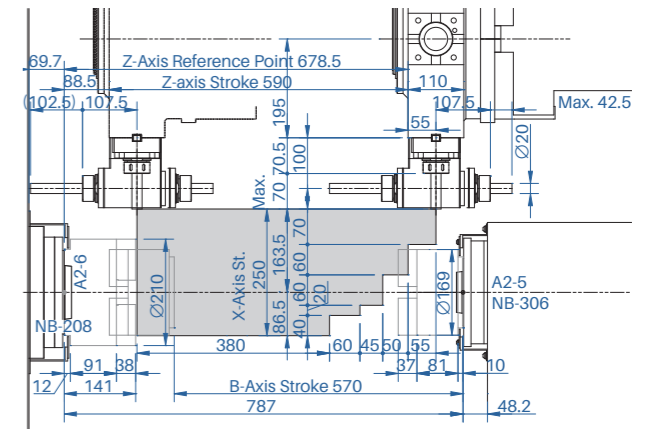
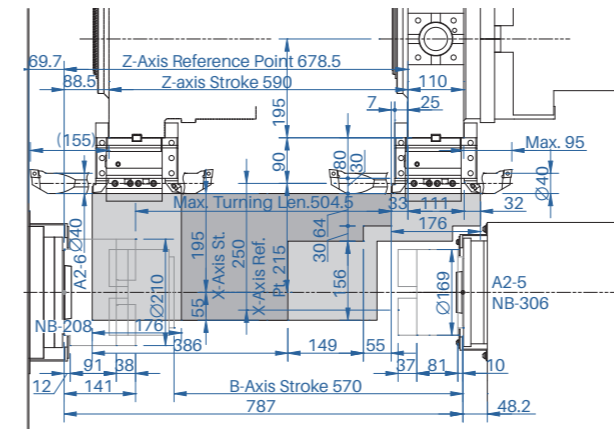
EX-2000MS / EX-2000YS STANDARD MILLING TURRET



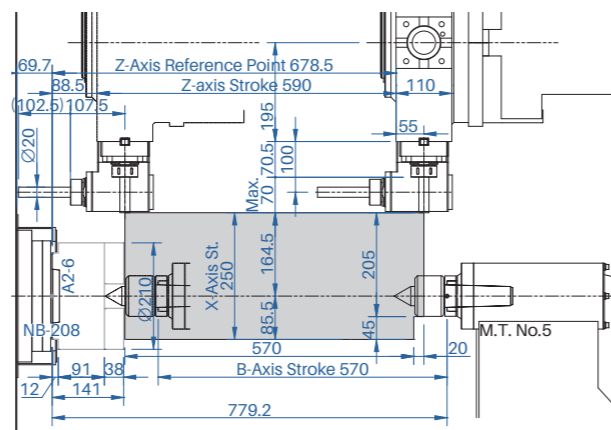
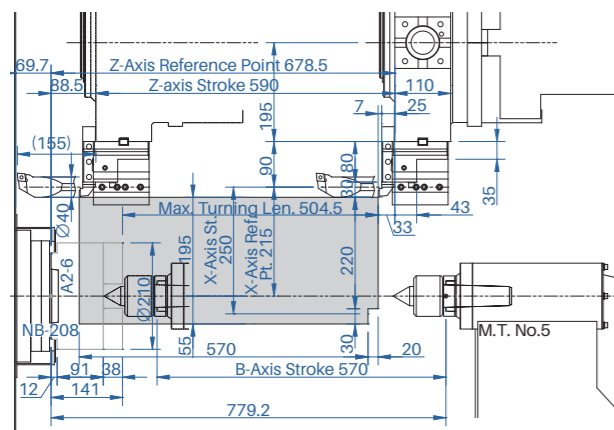
EX-2000MT / EX-2000YT STANDARD MILLING TURRET



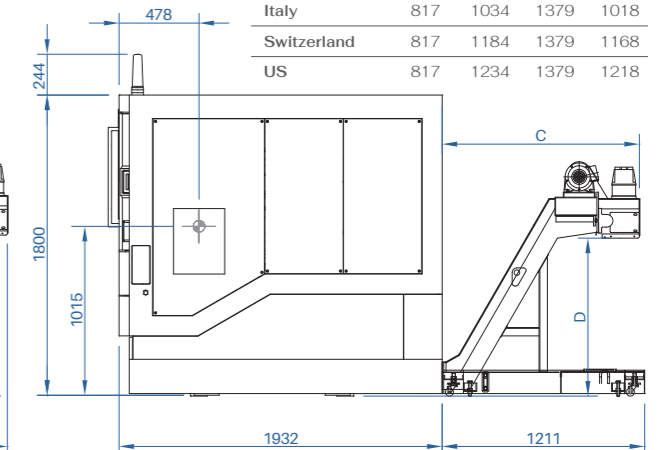
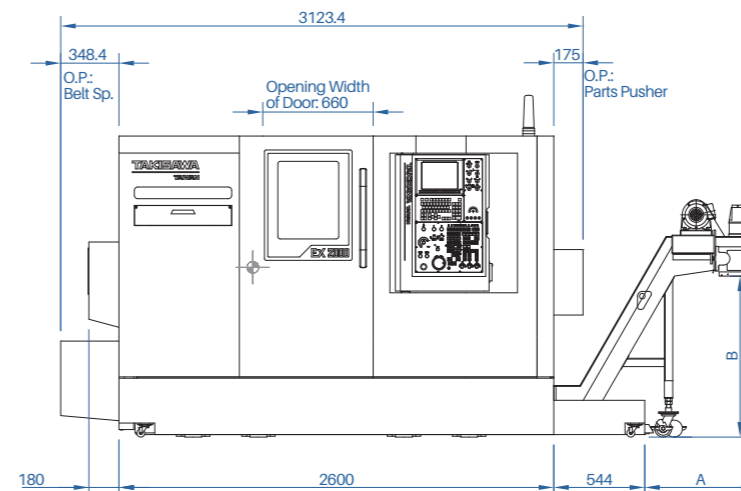
EX-2000MS / EX-2000YS BMT65 MILLING TURRET



EX-2000MT / EX-2000YT BMT65 MILLING TURRET



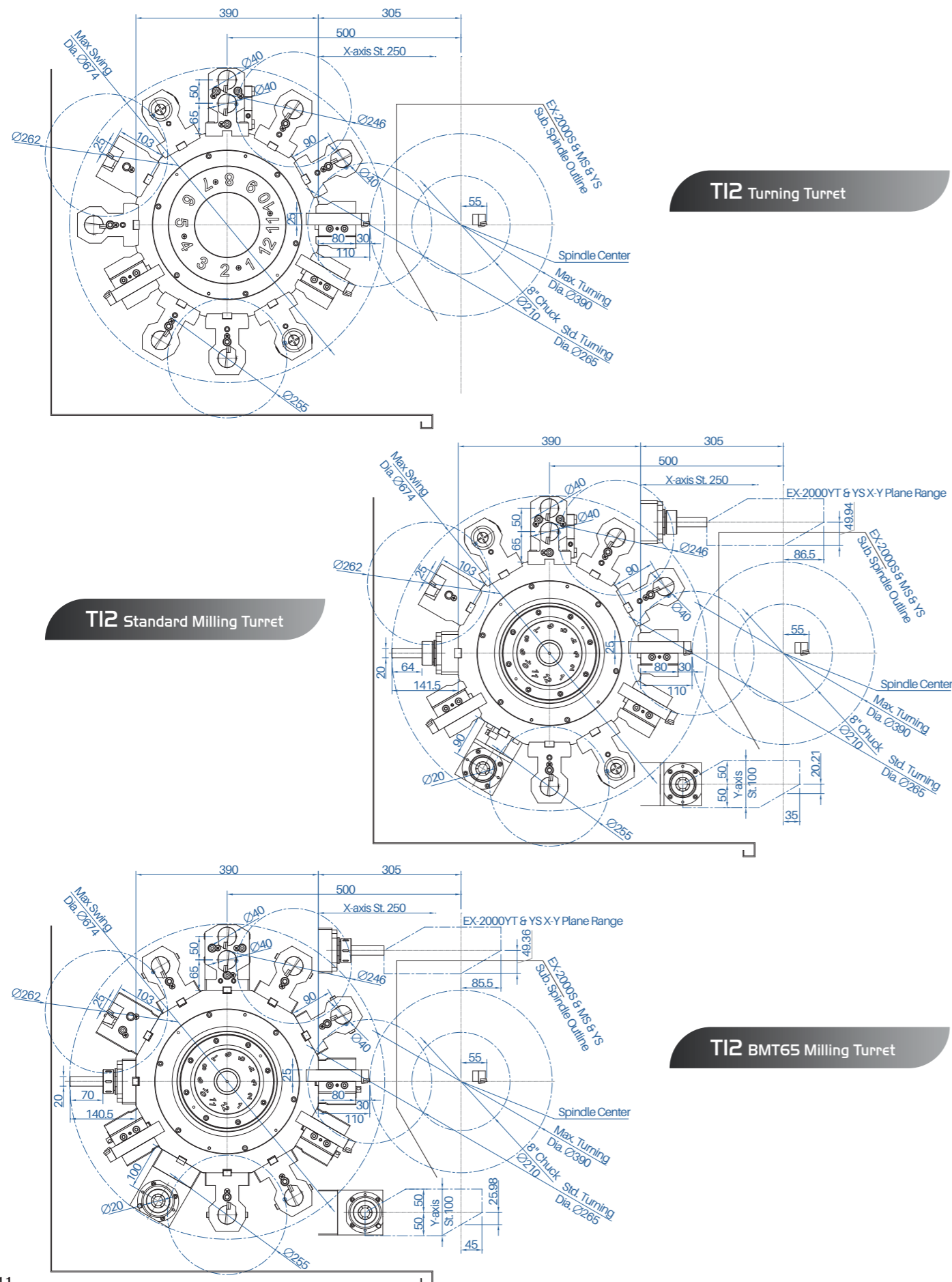
Machine Dimensions



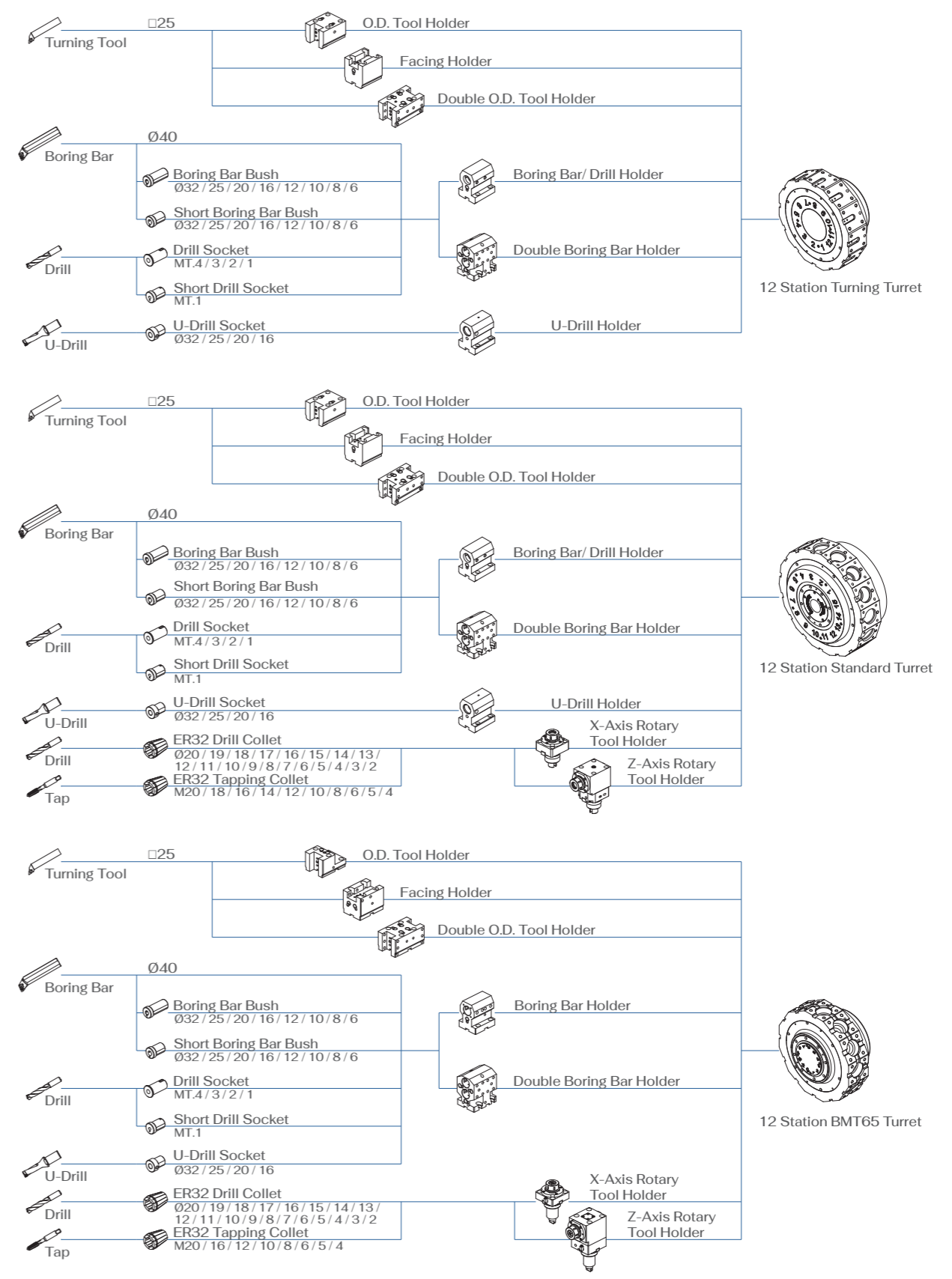
Chip Conveyor Dimension

	A	B	C	D
Standard	667	963	1179	944
CE	667	838	1179	819
Italy	817	1034	1379	1018
Switzerland	817	1184	1379	1168
US	817	1234	1379	1218

Interference



Tooling System



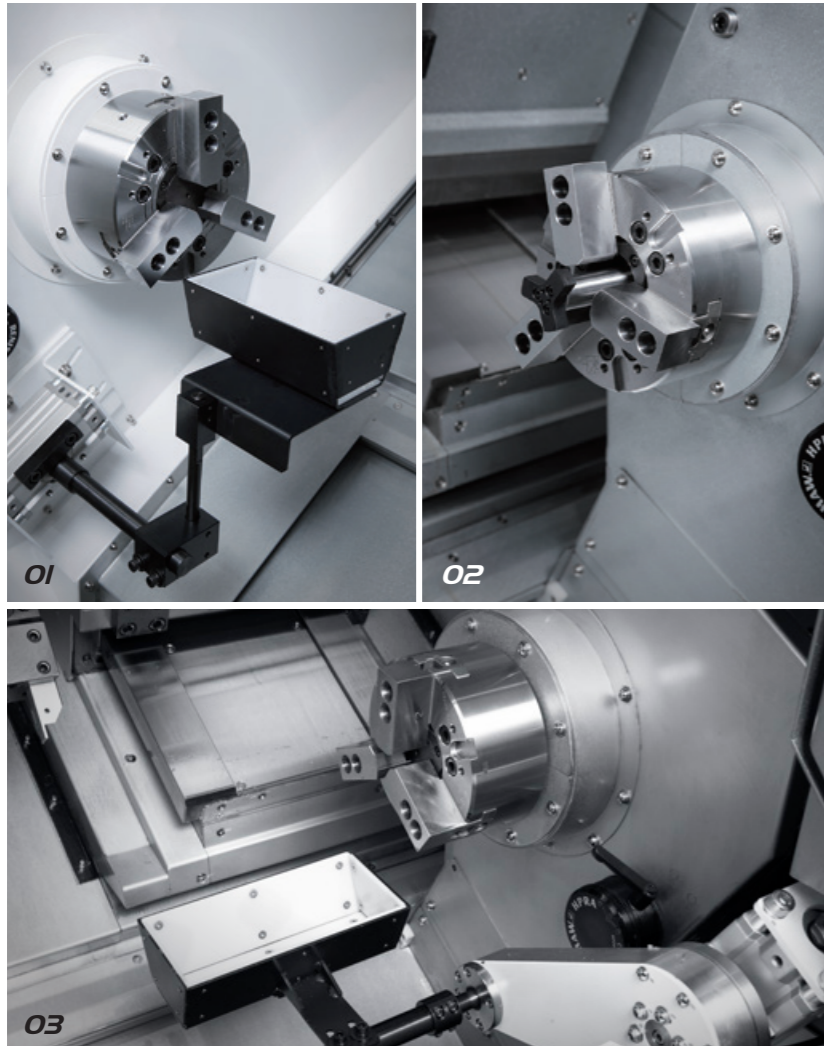
Machine Specifications

		EX-2000					
Item		T	MT	YT	S	MS	YS
Capacity	Max. Swing mm	800					
	Standard Turning Diameter mm	250					
	Max. Turning Diameter mm	390					
	Max. Turning Length mm	Turning Turret & Std. Milling Turret: 510.5 / BMT65 Milling Turret: 504.5					
	Bar Work Capacity (Main Sp.) mm	65					
	Bar Work Capacity (Sub. Sp.) mm	-			52		
	Dist. Between Centers mm	-			787		
Travel	X-Axis Travel mm	250					
	Z-Axis Travel mm	590					
	Y-Axis Travel mm	-		±50	-		±50
	B-Axis Travel mm	570					
Left Spindle	Spindle Speed rpm	4500					
	Spindle Nose	A2-6					
	Through Hole Dia. mm	76					
	Bearing Diameter mm	110					
Right Spindle	Spindle Speed rpm	-			5000		
	Spindle Nose	-			A2-5		
	Through Hole Dia. mm	-			61		
	Bearing Diameter mm	-			80		
Turret	Number of Tools	T12					
	OD Tool Shank Dim.	25					
	ID Tool Shank Dia. mm	40					
	Milling Shank Dia. mm	-	20		-	20	
	Spindle Speed rpm	-	4000		-	4000	
Tailstock	Tailstock Type	Live Centre (Revolving Center)				-	
	Tapered Bore Type	MT.5				-	
Feedrate	X-Axis Rapid Traverse m / min	30					
	Z-Axis Rapid Traverse m / min	36					
	Y-Axis Rapid Traverse m / min	-		10	-		10
	B-Axis Rapid Traverse m / min	36					
Motor	Left Spindle Motor kW	15 / 11					
	Right Spindle Motor kW	-			15 / 11		
	Milling Spindle Motor kW	5.5 / 3.7					
	Index Motor kW	1.2					
	X-Axis Servo Motor kW	3					
	Z-Axis Servo Motor kW	3					
	Y-Axis Servo Motor kW	-		1.4	-		1.4
	B-Axis Servo Motor kW	1.8					
Machine Size	Height mm	1800					
	Width mm	2600					
	Depth mm	1932					
	Weight kg	5300	5300	5700	5500	5500	5900

Standard and Optional Accessories

		EX-2000					
Accessories		T	MT	YT	S	MS	YS
Built-In Motor Left Spindle		⊙	●	●	⊙	●	●
Belt Motor Left Spindle		●	⊙	⊙	●	⊙	⊙
Built-In Motor Right Spindle		-	-	-	●	●	●
Servo Tailstock with Live Centre		●	●	●	-	-	-
Servo Tailstock with Revolving Center		⊙	⊙	⊙	-	-	-
O.D Tool Holder		●	●	●	●	●	●
Face Tool Holder		●	●	●	●	●	●
U-Drill Tool Holder (Not for BMT65 Turret)		●	●	●	●	●	●
Boring Bar Tool Holder (Not for BMT65 Turret)		●	●	●	●	●	●
Double Boring Bar Tool Holder (Not for BMT65 Turret)		⊙	⊙	⊙	⊙	⊙	⊙
BMT65 Boring Bar Tool Holder (Only for BMT65 Turret)		-	●	●	-	●	●
BMT65 Double Boring Bar Tool Holder (Only for BMT65 Turret)		-	⊙	⊙	-	⊙	⊙
Boring Bar Bush (Ø6, Ø8, Ø10, Ø12)		●	●	●	●	●	●
Boring Bar Bush (Ø16, Ø20, Ø25, Ø32)		●	●	●	●	●	●
U-Drill Bush (Ø16, Ø20, Ø25, Ø32)		●	●	●	●	●	●
Short Boring Bar Bush (Ø6, Ø8, Ø10, Ø12)		-	-	-	●	●	●
Short Boring Bar Bush (Ø16, Ø20, Ø25, Ø32)		-	-	-	●	●	●
Drill Bush (MT.1, MT.2, MT.3, MT.4)		⊙	⊙	⊙	⊙	⊙	⊙
Short Drill Bush (MT.1)		-	-	-	⊙	⊙	⊙
X-Axis Milling Holder		-	●	●	-	●	●
Z-Axis Milling Holder		-	●	●	-	●	●
Automatic Tool Setter (Left Spindle Only)		⊙	⊙	⊙	⊙	⊙	⊙
Manual Tool Setter		⊙	⊙	⊙	⊙	⊙	⊙
Linear Scales (X, Y, Z Axis)		⊙	⊙	⊙	⊙	⊙	⊙
Coolant Pump (400W)		●	●	●	●	●	●
Coolant Pump (400W, 550W, 750W, 1100W)		⊙	⊙	⊙	⊙	⊙	⊙
Coolant Chiller		⊙	⊙	⊙	⊙	⊙	⊙
Nut Cooling Ball Screw		⊙	⊙	⊙	⊙	⊙	⊙
Hydraulic System		●	●	●	●	●	●
Hydraulic Oil Cooling		⊙	⊙	⊙	⊙	⊙	⊙
Hydraulic Pressure Sensor		●	●	●	●	●	●
Lubrication System		●	●	●	●	●	●
Hydraulic Hollow Chuck		●	●	●	●	●	●
Hydraulic Collet Chuck		⊙	⊙	⊙	⊙	⊙	⊙
Foot Switch		●	●	●	●	●	●
LED Interior Light		●	●	●	●	●	●
LED TAKISAWA Light		●	●	●	●	●	●
LED Signal Tower		●	●	●	●	●	●
Galvanized Steel Interior Cover		●	●	●	●	●	●
Stainless Steel Interior Cover		⊙	⊙	⊙	⊙	⊙	⊙
Chip Cart		●	●	●	●	●	●
Right Disposal Chip Conveyor		⊙	⊙	⊙	⊙	⊙	⊙
Rear Disposal Chip Conveyor		⊙	⊙	⊙	⊙	⊙	⊙
Parts Catcher		⊙	⊙	⊙	⊙	⊙	⊙
Parts Conveyor		⊙	⊙	⊙	⊙	⊙	⊙
Automatic Bar Feeder and Interface		⊙	⊙	⊙	⊙	⊙	⊙
Auto Door		⊙	⊙	⊙	⊙	⊙	⊙
Safety Door Switch		⊙	⊙	⊙	⊙	⊙	⊙
Safety Light Curtain		⊙	⊙	⊙	⊙	⊙	⊙
Air Blow		⊙	⊙	⊙	⊙	⊙	⊙
Oil Skimmer		⊙	⊙	⊙	⊙	⊙	⊙
Oil Mist Collector		⊙	⊙	⊙	⊙	⊙	⊙
Parts Counter		⊙	⊙	⊙	⊙	⊙	⊙
Automatic Power-Off		⊙	⊙	⊙	⊙	⊙	⊙

Special Specification Example



01 Left Spindle Parts Catcher

Max. Parts Dia.	65	mm
Max. Parts Length	200	mm
Max. Parts Weight	3	kg

02 Parts Pusher

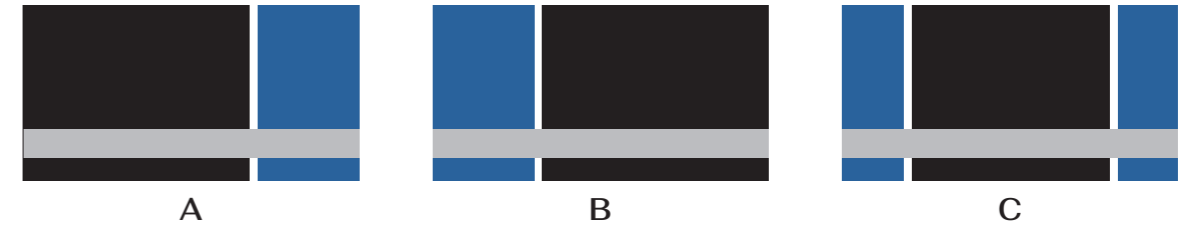
Pusher Stroke	95	mm
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03 Right Spindle Parts Catcher with Right Disposal Parts Conveyor

Max. Parts Dia.	65	mm
Max. Parts Length	200	mm
Max. Parts Weight	1	kg

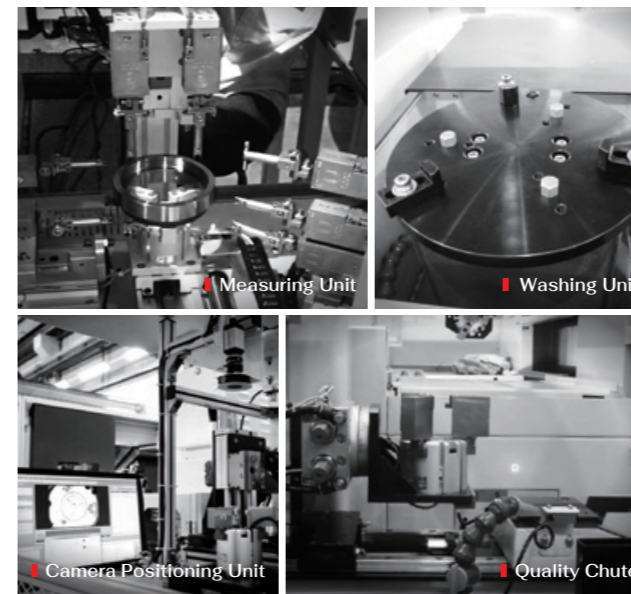
High Speed Gantry Loader System

Layout Variations



■ Lathe
■ Gantry Loader
■ Workpiece Feeder

Peripheral Equipment



Gantry Loader Specifications

Feedrate		
X-Axis Rapid Traverse	180	m / min
Z-Axis Rapid Traverse	150	m / min
Working Size		
O.D	160	mm
Length	100	mm
Weight	3 (x2)	kg

Work Feeder Specifications

Pallet	16	pcs
Loading Weight	40	kg
Max. Height	450	mm
Worker Feeder Width	610	mm

Highly Accurate Optional Equipment

There are special requirements for precise machining accuracy and it is necessary to use approved high-precision optional equipment.

Please contact us for advice on these options.

- 01 Linear Scales
- 02 Automatic | Manual Tool Setter
- 03 Nut Cooling Ball Screw
- 04 Cutting Fluid Cooling
- 05 High Pressure Coolant
- 06 Hydraulic Oil Cooling



Turn-Key Solution

